

Nursery Operation & Landscape Management

Levels: Grades 9-12

Units of Credit: Year (1.0)

CIP Code: 010641

Prerequisite: None

COURSE DESCRIPTION

Students will be exposed to nursery operation and landscape management practices that will prepare the student to select appropriate plant materials, design, install, and maintain interior and exterior plantings and hardscapes. They will also learn to maintain the facilities and equipment associated with this industry.

CORE STANDARDS, OBJECTIVES, AND INDICATORS

STANDARD

010641-01 Students will understand the integral nature of the Agricultural Education Program.

OBJECTIVES

010641-0101 Students will understand and demonstrate the role of FFA in Agricultural Education.

- Write or recite the FFA motto
- List the FFA colors
- List and describe the symbols of the FFA emblem
- List and describe the four kinds of membership
- Write the primary aim of the FFA
- List six specific purposes of the FFA
- State the proper uses of the FFA jacket and the Code of Ethics for FFA members
- Identify the correct date for the historical highlights of FFA
- List the four FFA degrees
- Name the offices and symbols for each office in the FFA
- List eight ways to work toward becoming a chapter leader
- Describe the official dress code for females and males in the FFA
- List four benefits when participating in the FFA
- Recite the FFA Creed
- Attend an FFA meeting
- List two specific duties of FFA chapter officers
- List two of the State, National contests and FFA awards
- Develop leadership qualities for personal goals using communication skills
- Outline the leadership structure in the FFA (committees, officer responsibilities)
- Demonstrate a members role in opening and closing ceremonies

010641-0102 Students will understand and demonstrate the role of Supervised Agricultural Experience (SAE) Program in Agricultural Education.

- Identify agricultural interests and/or career goals
- Define SAE and identify the types of SAE
- List reasons for participating in a SAE
- Define improvement activities and identify their role in SAE programs
- List five characteristics of a SAE
- List six responsibilities in conducting a SAE
- Prepare a plan for a long-term SAE

- Arrange in order steps involved in obtaining a loan from a credit service
- List the types of SAE records
- List five reasons for keeping records on a SAE
- In an approved record book, record all transactions and activities on a SAE
- Explain why record keeping is important in obtaining a loan from the bank
- Determine the overall quality of current SAE and determine how to make it more productive or profitable

STANDARD

010641-02 Students will demonstrate an understanding of landscape design components.

OBJECTIVES

010641-0201 Students will identify and categorize nursery and landscape plants by common characteristics, importance and value in the landscape.

- Identify conifers and their value in a landscape
- Classify nursery and landscape plants as annuals, biennials and perennials
- Classify nursery and landscape plants as monocots or dicots
- Identify important turf-grass species and growth requirements
- Classify turf and landscape plants according to growth habit

010641-0202 Students will illustrate characteristics for common design areas.

- Public area
- Outdoor privacy area
- Service area
- Residential planting

010641-0203 Students will design a landscape area.

- Identify drafting equipment
- Identify and draw landscape symbols
- Select a site for the design
- Analyze the site conditions
- Plan for xeriscaping and soil erosion control
- Calculate area dimensions
- Utilize various design types (public, service, residential, etc.)
- Match plant requirements to site environmental conditions
- Identify and select seed, plant, tree and shrub varieties
- Identify and select disease- resistant and insect resistant varieties if available
- Select xeric plants if possible
- Calculate landscaping costs
- Draw plan to scale
- Use computerized drafting (CAD) or drawing program (if available)

STANDARD

010641-03 Students will demonstrate an understanding of nursery and landscape plant installation and maintenance.

OBJECTIVES

010641-0301 Students will install a landscape area based on a landscape design.

- Locate and interpret planting depth and care instructions
- Determine planting schedules (fall bulbs, etc.)
- Plant seeds, bulbs, shrubs, ground covers, annuals & perennials and trees according to instructions
- Apply growth-regulating compound (root stimulators, etc)
- Demonstrate appropriate plant watering

- 010641-0302 Students will exhibit an understanding of turf installation and maintenance methods.
- Interpret a seed label
 - Identify methods in planting a new lawn (hydro-seed, lay sod, seed, etc.)
 - Understand proper turf watering methods.
 - Use application equipment for seed, top dressing and rolling
 - Demonstrate proper turf maintenance techniques
 - Aerate turf
 - Mow turf
 - Top dressing application to turf grass
 - Over-seed turf
- 010641-0303 Students will identify appropriate control methods using an integrated pest management (IPM) system.
- Identify symptoms of water stress
 - Assess degree of damage due to stress factors
 - Identify symptoms of nutrient deficiency
 - Interpret fertilizer bag labels
 - Identify components of a complete fertilizer
 - Mix fertilizer solutions
 - Apply fertilizers as needed to maintain nutrient levels
 - Identify insects, diseases and weeds
 - Identify chemical, cultural, and biological control options
 - Recognize chemical injury
- 010641-0304 Students will display proper tree and shrub maintenance practices and procedures
- Prune trees
 - Prune shrubs
 - Wrap, stake and guy young trees
 - Apply mulches
 - Maintain plants on arbors and trellises
 - Transplant or thin out bulbs, corms and tubers
 - Compost plant debris
 - Fertilize

STANDARD

010641-04 Students will demonstrate irrigation systems installation and maintenance.

OBJECTIVES

- 010641-0401 Students will properly prepare for a sprinkler system installation.
- Analyze site conditions
 - Locate water main
 - Calculate area coverage dimensions
 - Calculate water flow in gallons per minute (GPM)
 - Identify components of irrigation systems including pipes and joints
- 010641-0402 Students will plan and install a sprinkler system.
- Plan and illustrate a distribution system
 - Select components for irrigation system
 - Calculate the number of heads, valves, drains and pipe length needed
 - Evaluate the cost of the parts, supplies, and labor for system installation
 - Identify factors involved in the bidding process
 - Cut, fit and install PVC pipes and fittings
 - Install valves and faucets
 - Perform irrigation system test

- 010641-0403 Students will maintain a sprinkler system.
- Check for leaks or broken heads
 - Replace or repair heads
 - Replace or repair pipe
 - Adjust sprinkler head height

STANDARD

010641-05 Students will demonstrate an understanding of vehicle maintenance.

OBJECTIVES

- 010641-0501 Students will complete basic tire inspections for safe tire performance.
- Check tire pressure
 - Inflate tire to desired pressure
 - Remove and replace flat tires
 - Rotate tires
- 010641-0502 Students will properly service lubrication, fuel, and cooling systems of small engines.
- Refer to proper owners manual as necessary
 - Check oil level and add oil if necessary
 - Change oils and filters
 - Check fuel level and add fuel if necessary
 - Service fuel filter assembly
 - Check engine coolant and add engine coolant if necessary
 - Flush cooling system
 - Service air cleaner
- 010641-0503 Students will examine engine for safe operation.
- Perform basic battery maintenance
 - Install new battery if necessary
 - Clean, adjust and replace spark plugs
 - Adjust or replace fan belt
 - Replace cracked hoses
 - Ensure hydraulic lines are connected
 - Learn and use hand operating signals
 - Check lights and switches
 - Replace any burnt out lights